

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-10-693  
Relating to Certification of New Motor Vehicles

FORD MOTOR COMPANY

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That 1997 model-year Ford Motor Company exhaust emission control systems are certified as described below for passenger cars:

Emission Standard Category: Ultra-Low Emission Vehicle (ULEV)

Fuel Type: Compressed Natural Gas (CNG)

Engine Family: VFM4.6V8C7EK Displacement: 4.6 Liters (278 Cubic Inches)

Exhaust Emission Control Systems and Special Features:

Dual Three Way Catalytic Converters (two)  
Dual Heated Oxygen Sensors (two)  
Exhaust Gas Recirculation  
Sequential Multiport Fuel Injection

Vehicle models, transmissions, engine codes and evaporative emission control families are listed on attachments.

The ULEV certification exhaust emission standards for this engine family in grams per mile are:

<u>Miles</u>	<u>Non-Methane Organic Gases</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Formaldehyde</u>
50,000	0.040	1.7	0.4	0.008
100,000	0.055	2.1	0.6	0.011

The certification exhaust emission values set forth for non-methane organic gases (NMOG) reflect application of a reactivity adjustment factor (RAF) for CNG-fueled passenger car ULEVs, and the addition of the product of the methane exhaust emission value and a RAF for methane emission of CNG-fueled passenger car ULEVs.

BE IT FURTHER RESOLVED: That a NMOG RAF of 0.43 for 1997 model-year CNG-operated passenger car ULEVs has been adopted by the Air Resources Board (the Board or ARB) in a September 28, 1995, public hearing as amendments to the "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles." As of the date of this order, the Office of Administrative Law (OAL) has not approved these amendments. At the proposal of the manufacturer for the certification of the aforementioned engine family, and based on available data and analysis showing there is a strong likelihood that the RAF for such vehicles will be less than 1.000, the applicable RAF for the listed engine family shall be treated for all purposes relating to this certification as:

Reactivity Adjustment Factor for NMOG Mass Emission: 1.000

BE IT FURTHER RESOLVED: That the manufacturer has elected to apply towards the certification of this engine family a methane RAF of 0.0047. A methane RAF of 0.0047 for 1997 model-year CNG-operated passenger car ULEVs has also been adopted by the Board in a September 28, 1995, public hearing as amendments to the "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles." As of the date of this order, the OAL has not approved these amendments. In the event these amendments do not become effective, the methane RAF for the listed vehicles will be deemed equal to the numerical value of the currently effective methane RAF for passenger car low-emission vehicles operated on CNG (0.0047). The applicable methane RAF for the listed engine family shall be treated for all purposes relating to this certification as:

Reactivity Adjustment Factor for Methane Mass Emission: 0.0047

The ULEV certification exhaust emission values for this engine family in grams per mile are:

<u>Miles</u>	<u>Non-Methane Organic Gases</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Formaldehyde</u>
50,000	0.029	0.4	0.04	0.003
100,000	0.043	0.6	0.1	0.004

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the aforementioned exhaust emission standards based on its submitted plan to comply with the fleet average NMOG exhaust mass emission requirements as set forth in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That under the submitted NMOG fleet average compliance plan, if the manufacturer incurs a NMOG debit for the aforementioned model year based on the projected NMOG fleet average exceeding the value required by the above-referenced standards and test procedures, all incurred NMOG debits by the manufacturer shall be equalized as required by the standards and test procedures.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high-altitude requirements and highway emission standards, and with the California Inspection and Maintenance emission standards in place at the time of certification, as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "California Motor Vehicle Emission Control Label Specifications" for the aforementioned model year (Title 13, California Code of Regulations, Section 1965).

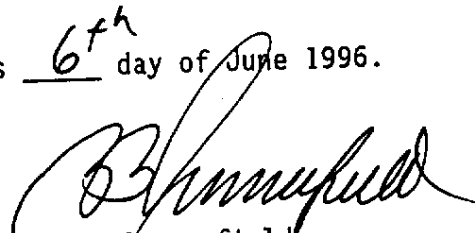
BE IT FURTHER RESOLVED: That the manufacturer is certifying the listed vehicle models with a partially complying on-board diagnostic system for the aforementioned model year pursuant to Title 13, California Code of Regulations, Section 1968.1(m)(5.1) ("Malfunction and Diagnostic System Requirements--1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines").

BE IT FURTHER RESOLVED: That for the listed vehicles, the manufacturer has submitted and the Executive Officer hereby approves the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Section 2035 et seq.).

Vehicles certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California this 6<sup>th</sup> day of June 1996.

  
R. B. Summerfield  
Assistant Division Chief  
Mobile Source Division

1997 MODEL-YEAR AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

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Manufacturer: FORD MOTOR COMPANY Exh Eng Fam: VFM4.6V8C7EK Evap Fam: VFM0000GMEZB  
 All Eng Codes in Eng Fam: CA 49S 50S x AB965  
 Exh Std: CA Tier-1 TLEV LEV ULEV x ZEV; US EPA ILEV x  
 Evap Std: 50K n/a Useful Life with R/L Full In Use Alt In Use x  
 Veh Class(es): PC x LDT1 LDT2 MDV1 MDV2 MDV3 MDV4 MDV5  
 Single Cert Std for Multi-Class Eng Fam: n/a (specify: N/A, LDT1, MDV1, MDV2, MDV3, MDV4)  
 Fuel Type(s): Dedicated x Flex-Fuel Dual-Fuel Bi-Fuel Gasoline Diesel  
CNG x LNG LPG M85 Other (specify)  
 Emiss Test Fuel(s): Indo Ph2 CNG x LPG M85 Other (specify)  
Diesel: 13 CCR 2282 40 CFR 86.113-90 40 CFR 86.113-94  
 Service Accum: Std AMA x Mod AMA Mfr ADP Other (specify)  
 NMOG Test Procedure: N/A Std Equiv x R/L Test Proc: SHED Pt Source  
 Hybrid: Type A B C, APU Cycle (e.g., Otto, Diesel, Turbine): n/a  
 Engine Configuration: V-8 Displacement: 4.6 / Liters 278 / Cubic Inches  
Valves per Cylinder: 2 Rated HP: 175 @ 4500 RPM  
 Engine: Front x Mid Rear Drive: FWD RWD x 4WD-FT 4WD-PT  
 Exhaust ECS (e.g., MFI, EGR, TC, CAC): 2TWC, 2HO2S(2), EGR, SFI  
 (use abbreviations per SAE J1930 SEP91)

Engine Code (also list CA/49ST/50ST)	Vehicle Models (if coded see attachment)	Trans. (M5, A4 etc.)	ETW or Test Wt.	DPA or RLHP	Ignition (ECM/PCM) Part No.	EGR System Part No.	Catalytic Converter Part No.
6-18L-R10 A	CROWN VICTORIA	L4	4500	7.8	F6AF-FD	F6AE-AA	F6AC-CB/CC (5E212) F6AC-CB/CC (5E214)
6-18L-R10 A	CROWN VICTORIA (POLICE)	L4	4500	9.8	F6AF-FD	F6AE-AA	F6AC-CB/CC (5E212) F6AC-CB/CC (5E212)

ENGINE FAMILY: VFM4.6V8C7EKte Issued: 3/13/96

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